IN THE CLAIMS:

MARKED UP VERSION OF THE AMENDED CLAIMS

(Version with marking to show changes made)

1. (currently amended) A device to generate a plasma for the production of ozone and/or oxygen ions in the air, based [[an]] on the principle of dielectrically impeded discharge, with two electrodes (3, 4) to which a high voltage from an alternating voltage generator is applied and between which an electrically insulating element ~~(1, 7)~~ is situated, wherein

a) the element consists of a flat, electrically insulating carrier (1, 7), whose material has a dielectric constant $\varepsilon_{r\ carrier}$ which is greater than 50 (in words, $\varepsilon_{r\ carrier}$ > fifty) or at least greater than 30 (in words, $\varepsilon_{r\ carrier}$ > thirty),

b) a flat electrode (4), as a lower electrode (4), made of an electrically conductive material, is applied onto a rear one of main surfaces of the carrier (1, 7), ~~the rear,~~

c) at least one electric insulating layer (2, 8) made of a dielectric material is

applied onto the other main surface of the carrier (1, 7), the front, which is ~~exposable, to the~~ adapted to be exposed to air, wherein the insulating layer (2, 8) only partially covers the front of the carrier (1, 7),

d) the dielectric constant of the carrier (1,7) and that of the insulating layer (2, 8) are different, wherein, at a dielectric constant of the carrier (1, 7) of $\varepsilon_{r\ carrier}$ > fifty, the dielectric constant of the insulating layer (2, 8) is between $50 > \varepsilon_{r\ insulating\ layer} > 5$ and, at a dielectric constant of the carrier (1, 7) of $\varepsilon_{r\ carrier}$ > thirty, the dielectric constant of the insulating layer (2, 8) is between $30 > \varepsilon_{r\ insulating\ layer} > 5$, for allowing a mirror discharge effect to occur, and

e) a band-shaped electrode (3, 10), as an upper electrode (3), made of an electrically conductive material that only partially covers the insulating layer (2, 8), is directly situated [[an]] on the insulating layer (2, 8).

2. (previously presented) The device according to Claim 1, wherein the insulating layer (2, 8) consists of several electrically insulating partial layers whose dielectric constants decrease as a distance from the carrier (1, 7) increases,

so that the top partial layer has the smallest dielectric constant of the partial layers, wherein the upper electrode (3, 10) is arranged on the top partial layer.

3. (previously presented) The device according to Claim 1 or 2, wherein at a dielectric constant ε_r of thc carrier that is at least greater than 30, the insulating layer (2, 8) has a dielectric constant ε_r between 5 and less than 30, whereby, if several insulating layers (2, 8) are present, their dielectric constants ε_r are graduated between 5 and less than 30.

4. (currently amended) The device according to Claim 1, wherein the carrier (1, 7) and the insulating layer (2, 8) or the insulating layers are made of a ceramic material ($A1_2 0_3$) or glass, polysilicon or amorphous silicon, or of an organic plastic, ~~polyamide,~~ wherein the insulating layer (2, 8) can optionally also be made of an oxidic material ~~metal oxide or zinc oxide~~.

5. (previously presented) The device according to Claim 1, wherein

the thickness of the insulating layer (2, 8) or of the insulating layers (2, 8) is less than the thickness of the carrier (1, 7), wherein the thicknesses are in a ratio of 1:4 to 1:25.

6. (currently amended) The device according to Claim 1, wherein the insulating layer (2, 8) or insulating layers consist of films made of organic, electrically insulating plastics made of polyamide, [[or]] of thermoplastic, [[or]] thermoset plastic, or acrylate ~~or polymers~~, wherein, when several films are employed, their dielectric constants are graduated.

7. (currently amended) The device according to Claim 1, wherein the carrier (1, 7) has an elongated-flat rectangular format, ~~whereby~~ wherein the lower electrode (4) that is situated directly [[an]] on the carrier (1, 7) covers the rear of the carrier (1, 7) over a large surface area completely or almost completely, and is situated geometrically centered [[an]] on said carrier, and in that the insulating layer (2, 8) located [[an]] on the front of the carrier (1, 7) as well as the upper electrode (3, 10) located [[an]] on the insulating layer (2, 8)

extend along the longitudinal axis (6) of the carrier (1, 7), each in the form of a band geometrically centered [[an]] on the carrier or [[an]] on the insulating layer, wherein the surface area of the lower electrode is larger than the surface area of the insulating layer.

8. (previously presented) The device according to Claim 1, wherein both electrodes (3, 4, 10) are designed as grids or nets, wherein the surface area of the lower electrode (4) is larger than the surface area of the upper electrode (3, 10).

9. (currently amended) The device according to Claim 1, wherein the insulating layer (2, 8) and the upper electrode (3, 10) situated [[an]] on it, which are structured in a meander-shaped or finger-shaped or ~~comb-like~~ comb-shaped way, can be situated geometrically centered [[an]] on the carrier (1, 7), wherein the upper electrode (3, 10) likewise runs geometrically centered [[an]] on the insulating layer (2, 8).

10. (currently amended) The device according to Claim 9, wherein the voltage from an alternating voltage generator is fed into the upper electrode (3, 10) via an electric resistor (12), wherein, with the meander-shaped or finger shaped or ~~comb-like~~ comb-shaped design of the upper electrode (3, 10), such a resistor (12) is present at each meander or finger or tooth (11) as a supply point.

11. (previously presented) The device according to Claim 1, wherein the upper electrode (3, 10) is made of a metallic electrically conductive material or of an electrically semi-conductive material.

12. (previously presented) The device according to Claim 11, wherein the upper electrode (3, 10) is made of one of the following materials: graphite, charcoal or electrically conductive metal alloys with low electrode work functions, including barium titanate, barium-zirconium titanate, barium-gallium titanate

or semi-conductive, dope metal oxides including zinc oxide, tin dioxide, tungsten trioxide, iron oxide.

13. (previously presented) The device according to Claim 1, wherein the lower electrode (4) which consists of vapor-deposited platinum, is insulated and passivated towards the outside with a very thin layer of glass (5).

14. (previously presented) The device according to Claim 1, wherein the surface area ratios of the upper elcctrode (3,10) to the insulating layer (2,8) to the carrier (1,7) can be approximately 1:4:8.

15. (previously presented) The device according to Claim 1, wherein two such devices are each joined with the rear lower electrodes (15) on each other and with the insulating layers (17, 17') lying in-between to form a flat assembly (14), wherein the upper electrodes (18, 18') are each on the outside of the flat assembly (14).

16. (previously presented) The device according to Claim 15, wherein

the flat assembly (14) has a sandwich-like structure with just one single inner electrode (15), which represents the lower electrode (15).

17. (previously presented) The device according to Claim 16, wherein the outer upper electrodes (18, 18') of the flat assembly (14), which can bc touched from the outside, are connectable to ground or to thc carth.

18. (previously presented) The device according to Claim 1 or 15, wherein thc carrier or carriers consist of a flexible dielectric carrier material in order to fonn a band-shaped, rollable spiral device (19) or flat assembly (19).

19. (currently amended) A device to generate a plasma for the production of ozone and/or oxygen ions in the air, based [[an]] on the principle of dielectrically impeded discharge, comprising the following features:

a) ~~the device comprises~~ a flat, electrically insulating carrier (1, 7), whose material has a dielectric constant ε_r that is at least greater than 30 (in words, $\varepsilon_r >$ thirty),

b) an electrode (4), as a lower electrode (4), made of an electrically conductive material, is applied onto one of main surfaces of the carrier (1, 7), the rear;

c) at least one electric insulating layer (2, 8) made of a dielectric material is applied onto the other main surface of the carrier (1, 7), the front, which is ~~exposable to the air,~~ configured to be exposed to air, wherein the insulating layer (2, 8) only partially covers the front of the carrier (1, 7),

d) the dielectric constant of the carrier (1, 7) and that of the insulating layer (2, 8) are different, wherein the difference between the dielectric constants of the carrier (1, 7) and of the insulating layer (2, 8) or of [[the]] partial layers is selected for allowing a mirror discharge effect to occur,

e) an electrode (3, 10), [[the]] as an upper electrode (3), made of an electrically conductive material that only partially covers the insulating layer (2, 8), is ~~likewise~~ directly situated [[an]] on the insulating layer (2, 8); and

f) ~~a high voltage from~~ an alternating voltage generator [[is]] ~~applied~~ configured to provide a high voltage to the two electrodes (3, 4).

20. (new) The device according to Claim 4, wherein the organic plastic is polyamide.

21. (new) The device according to Claim 4, wherein the oxidic material is metal oxide or zinc oxide.